Product Data Sheet

AMBERSEP™ G26 H Ion Exchange Resin

Uniform Particle Size Strong Acid Cation Exchange Resin for Industrial Chemical Processing Applications

Description

AMBERSEP™ G26 H Ion Exchange Resin is a high performance, uniform particle size, gel resin. It is an excellent choice to meet the stringent demands of the chemical processing industry due to its high strength, toughness, and oxidative stability. AMBERSEP™ G26 H has excellent crush strength to withstand the osmotic shock conditions encountered during solvent exchanges. AMBERSEP™ G26 H also has low levels of extractables and color throw, which is important for organic solvent applications where these components can be extracted into the product, and it has very low metals content, which makes this product ideal for purification applications.

Applications

- Chromium(III) removal
- Ammonia (as a salt or cationic amine) removal

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Typical Properties

Physical Properties	
Copolymer	Styrene-divinylbenzene
Matrix	Gel
Type	Strong acid cation
Functional Group	Sulfonic acid
Physical Form	Tan to brown, translucent, spherical beads
Chemical Properties	
Ionic Form as Shipped	H^+
Total Exchange Capacity	≥ 2.0 eq/L
Water Retention Capacity	46 – 51%
Ionic Conversion	
H^+	≥ 95%
Particle Size [§]	
Particle Diameter	650 ± 50 µm
Uniformity Coefficient	≤ 1.1
Purity	
Trace Metals, dry basis:	
Na	≤ 100 mg/kg
Fe	≤ 50 mg/kg
Cu	≤ 50 mg/kg
Al	≤ 50 mg/kg
Heavy Metals (as Pb)	≤ 20 mg/kg
Stability	
Whole Uncracked Beads	≥ 95%
Friability:	
Average	≥ 500 g/bead
> 200 g/bead	≥ 95%
Swelling	$Na^+ \rightarrow H^+$: 7%
Density	
Particle Density	1.22 g/mL
Shipping Weight	800 g/L

[§] For additional particle size information, please refer to the Particle Size Distribution Cross Reference Chart (Form No. 177-01775).

Suggested Operating Conditions

Maximum Operating Temperature	130°C (266°F)	
pH Range	0 – 14	
Bed Depth, min.	450 mm (1.5 ft)	
Flowrates		
Service	5 – 150 m/h (2 – 60 gpm/ft^2)	
Backwash	See Figure 1	
Regeneration		
Chemical Injection	1 – 10 m/h (0.4 – 4 gpm/ft^2)	
Displacement Rinse	1 – 10 m/h (0.4 – 4 gpm/ft^2)	
Fast Rinse	5 – 150 m/h (2 – 60 gpm/ft^2)	
Total Rinse Requirement	3 – 6 BV*	
Regenerant	H_2SO_4	HCl
Concentration	1 – 10%	4 – 8%

* 1 BV (Bed Volume) = 1 m^3 solution per m^3 resin or 7.5 gal per ft^3 resin

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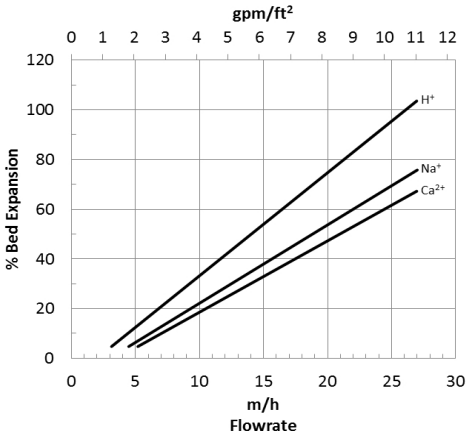
Hydraulic Characteristics

Bed expansion of AMBERSEP™ G26 H Ion Exchange Resin as a function of backwash water flowrate at 25°C (77°F) and ionic form is shown in Figure 1. The flowrate necessary to achieve a desired bed expansion for other water temperatures can be calculated with the provided equations.

Pressure drop data for AMBERSEP™ G26 H as a function of service flowrate at 20°C (68°F) in water is shown in Figure 2. The pressure drop for other water temperatures can be calculated with the provided equations. Pressure drop data are valid at the start of the service run with clean water.

Figure 1: Backwash Expansion

Temperature = 25°C (77°F)



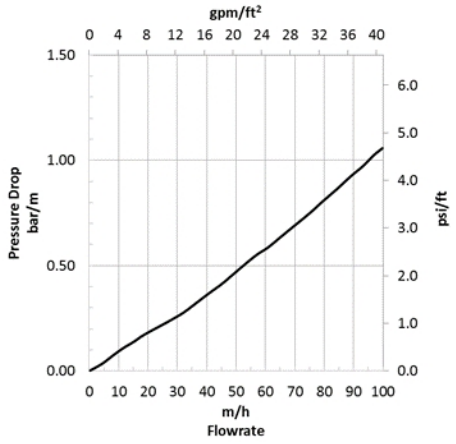
For other temperatures use:

$F_T = F_{25°C} [1 + 0.008 (1.8T_{°C} - 45)]$, where F ≡ m/h

$F_T = F_{77°F} [1 + 0.008 (T_{°F} - 77)]$, where F ≡ gpm/ft²

Figure 2: Pressure Drop

Temperature = 20°C (68°F)



For other temperatures use:

$P_T = P_{20°C} / (0.026 T_{°C} + 0.48)$, where P ≡ bar/m

$P_T = P_{68°F} / (0.014 T_{°F} + 0.05)$, where P ≡ psi/ft

Drying

AMBERSEP™ G26 H Ion Exchange Resin is sold water wet. In order for good contact with organic solvents for demineralization, metals removal, and catalysis, AMBERSEP™ G26 H needs to be dried. It can be dried in a conventional or convection oven at 100°C or in a vacuum oven. Drying can be monitored by weight change or moisture analysis of the AMBERSEP™ G26 H cation exchange resin.

Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- **WARNING:** Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

Have a question? Contact us at:

www.dupont.com/water/contact-us

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